

the hind wing. The usual Japanese and Korean form is much larger than either of the forms mentioned, has much smaller and fewer spots, and no trace of a second white band on the underside of hind wing; the underside is very variable. No definite opinion on this difficult species can be formed without longer series than at present exist.

EXPLANATION OF THE PLATES.

PLATE XXXV.

- Fig. 1. *Papilio mikado*, p. 406.
 2. *Apatura cauta*, p. 417.
 3. ♂ ♀ *Polyommatus auratus*, p. 414.

PLATE XXXVI.

- Fig. 1. ♂ ♀ *Euripus coreanus*, p. 418.
 2. *Dipsas flamen*, p. 410.

3. On a Second Collection of Birds formed by Mr. L. Wray in the Mountains of Perak, Malay Peninsula. By R. BOWDLER SHARPE, F.L.S., F.Z.S., &c., Zoological Department, British Museum.

[Received April 15, 1887.]

(Plates XXXVII. & XXXVIII.)

Mr. L. Wray, the Curator of the Perak Museum, has forwarded me another interesting collection of birds, amongst which are several novelties. The circumstances under which the collection was made are best explained by the following letter from Mr. Wray himself:—

“Perak Museum,
 “Perak, Straits Settlements,
 Nov. 15, 1886.

“MY DEAR SIR,—

“In accordance with the promise contained in my last letter, I now send you a collection of 51 bird-skins, which I made during a six weeks' stay on the hills in the months of September and October. Although it is not to be considered a complete collection, still, from the difficulty experienced in getting fresh species during the latter part of the time, I fancy it is a fairly representative one.

“The house in which I have been staying, and near which the collection was made, is about 4400 feet above the sea-level, and there is only one other peak near which is higher, and that reaches to 4700 feet. No other hills in the range, at least for many miles, rise higher than 5600 feet. This range, which is known as the Larut Range, is more or less connected on the north at the watershed of the Perak River with the main range of the peninsula. It is covered with dense unbroken forest from base to peaks, without any elevated open or grass lands.

"Besides the birds mentioned in the list, I repeatedly heard the cry of the Argus Pheasant (*A. giganteus*), and I found their dancing-places at about 3000 to 5000 feet. I saw also examples of three or four species of Hornbills and a Green-headed Bee-eater, but was not able to get any specimens of them.

"Below 3000 feet the hill forms become scarce, and the low-country ones begin to appear. The temperature at 3300 feet on the hills ranges from about 56° to 76° in the shade, and at the higher stations from 50° to 72°. Judging from the records of the past six years, there are no regular seasons in Perak. The rainfall on the Larut hills is from 200 to 250 inches per annum.

"I am, yours truly,

"L. WRAY, Jun."

Mr. Wray's collection is divided into two parts, the first consisting of some low-country forms, a list of which I give for the sake of the notes appended by the collector. The latter are placed in inverted commas.

1. *ORIOLOUS XANTHONOTUS*, Horsf.

"No. 77. Larut. Irides and bill red."

2. *LALAGE CULMINATA*.

"No. 74. ♀. Larut. Irides dark brown."

3. *TRICHIXUS PYRRHOPYGA*.

"No. 76. ♀. Blanja. Irides brown."

4. *PITTA GRANATINA*.

"No. 72. ♂. Blanja. Irides brown; bill and legs black."

5. *CALYPTOMENA VIRIDIS*.

"No. 73. ♂. Larut. Irides dark brown; bill yellowish."

6. *EURYLÆMUS OCHROMELAS*.

"No. 75. ♀. Larut. Irides pale yellow; bill cobalt-blue, with yellow markings on the upper mandible."

7. *HARPACTES KASUMBA*.

"No. 68. ♂. Larut. Irides crimson; bill and skin of face cobalt-blue. Fairly common in big jungle."

8. *HALCYON CONCRETA*.

"No. 70. ♂. Bill black above, bright yellow beneath; irides brown."

9. *PTILOPUS JAMBU*.

"No. 69. ♂ ♀. Irides white; bill yellow; feet and legs red. Very rare in Perak. These specimens were collected in Kinta in July."

10. *OSMOTRERON FULVICOLLIS*.

"No. 71. ♂. Kinta. Irides white; feet and legs red. I have only seen two or three of these Pigeons.

I have quoted the following papers, which relate to the ornithology of the Malayan Peninsula, though most of them treat of the lower country on the western side:—

HUME, A. O. A First Tentative List of the Birds of the Western Half of the Malay Peninsula. Str. F. 1879, pp. 37-72.

——. The Birds of the Western Half of the Malay Peninsula. *Tom. cit.* pp. 151-163.

KELHAM, H. R. Ornithological Notes made in the Straits Settlements and in the Western States of the Malay Peninsula. Ibis, 1881, pp. 362-395, 501-532.

——. The same. Ibis, 1882, pp. 1-18, 185-204.

SALVADORI, T. Catalogo di una collezione di Uccelli fatta nella parte occidentale di Sumatra dal Prof. Odoardo Beccari. Ann. Mus. Civic. Genov. xiv. pp. 169-253 (1879).

The following is a list of the second collection made by Mr. Wray in the mountains, examples of some species not being sent to the British Museum:—

NEOPUS MALAYENSIS (Temm.); Sharpe, Cat. B. i. p. 257; Hume, Str. F. 1879, p. 44.

"No. 18. ♂ ♀. This Eagle is the only large species that I have seen on the hills. It is fairly common, and usually flies about in small parties of four or five." [Not sent.]

SPIZAETUS LINNAETUS (Raffl.); Sharpe, Cat. B. i. p. 272.

Linnaetus caligatus, Hume, Str. F. 1879, p. 44; Kelham, Ibis, 1881, p. 366; Salvad. Ann. Mus. Civic. Genov. xiv. p. 172 (1879).

"No. 19. On opening my window early one morning I saw one of these Hawk-Eagles sitting with crest erected on a stump of a tree, only about thirty yards from the house, and brought it down with a shot from my revolver. A second specimen was shot by my collector while perched on a branch of a tree quite near the ground, but was never found, as in searching for it the man got bitten on the leg by a Snake (*Trimeresurus gramineus*), and gave up the search. These were the only two birds seen of this species." [Not sent.]

SPILORNIS BACHA, Sharpe, Cat. B. i. p. 290; Hume, Str. F. 1879, p. 44; Salvad. *t. c.* p. 173.

"No. 64. ♀. Irides bright yellow. I only saw one pair of these birds, one of which I was fortunate enough to be able to shoot."

The specimen sent is very dark and almost as deeply coloured as typical Javan birds, certainly exceeding that of Malaccan specimens. The feathers on the hind neck and mantle are edged with sandy rufous. Wing 14.5 inches.

GLAUCIDIUM BRODIEI (Burt.); Sharpe, Cat. B. ii. p. 212 (1875).

"No. 57. ♂. Irides yellow. Only one specimen of this Pygmy Owllet was seen."

SYRNIUM NEWARENSE (Hodgs.); Sharpe, Cat. B. ii. p. 281 (1875).

"No. 65. ♀. Irides yellow. I found this Owl seated on a branch of a small tree in a very dark ravine, and I was some time before I could decide whether it was a bird or some dead leaves."

This specimen is rather small, but there can scarcely be any question about its being identical with *S. newarense* and not with *S. maingayi*, which is the yellow-faced form found in the Malay Peninsula (cf. Hume, Str. F. vi. p. 27). As a rule *S. maingayi* and *S. indranee* have perfectly uniform faces of a deep ochreous colour, but one specimen (♀) from Coonoor has the face dusky and barred with blackish, exactly as in *S. newarense*, and therefore it shows either that *S. newarense* occurs in the Nilghiris, or else that the latter range contains an intermediate form between *S. newarense* and *S. indranee*.

The specimen sent by Mr. Wray has the wing 4 inches. It is evidently a very old bird, being very dark above and very coarsely barred below, with a dark band across the chest, where the cross-bars are not so distinct. The face is deep rufous-ochre, with a few indistinct blackish cross-bars. Altogether the specimen may be said to belong to the eastern race of *Syrnium newarense*, with a tolerably uniform ochreous face. Such specimens are found in Formosa, Assam, Manipur, and Sikkim, where a perfect gradation takes place between them and typical *S. newarense*, leaving it absolutely impossible to draw any line between eastern and western examples.

ORIOLOUS CONSANGUINEUS, Wardlaw Ramsay.

"No. 59. ♂. Irides crimson; bill pale blue-grey. The female is black, without the red breast- and wing-spots. It is not a common bird. The range seems to be from 3000 to 4000 feet, but I have a specimen shot in Kinta at not more than 100 or 200 feet above the sea-level, at the foot of the central range of the peninsula."

The specimen sent is identical with one of the typical specimens collected by Mr. Carl Bock, and now in the British Museum.

BHRINGA REMIFER (Temm.); Sharpe, Cat. B. iii. p. 257 (1877).

"No. 46. ♂ ♀. Irides red-brown. The long tail-feathers of most of the males have no webs on their shafts, excepting on the racket-ends, the portion covered by the ordinary tail being quite naked. I obtained two males with webs on the shafts, under the shorter tail-feathers, and was at first uncertain whether there might not be two species; but as no difference was observable in the tails of the females (the upper portion of the long tail-feathers being webbed in every specimen), it seems more probable that the birds with the webbed upper parts of the long feathers are young males."

This is interesting, as continuing the range of the species southwards from Tenasserim, but it is also known from Java.

ARTAMIDES LARUTENSIS, sp. n.

"No. 30. ♂. Irides brown. The female has a lighter head than the male. Fly usually in pairs or small parties."

A large representative of *A. larvatus*, from which it differs in its purer grey coloration, blacker chin and cheeks, and by the colour of the under tail-coverts, which are white washed with ashy grey. The under wing-coverts are also for the most part white, but in both these cases the plumage may not be fully mature.

Adult male. General colour above uniform dark pearly grey, lesser wing-coverts like the back; median and greater coverts dark cindery grey, edged with pearly grey; bastard-wing, primary-coverts, and quills black, fringed with ashy grey, margined with broader and paler grey on the secondaries, the innermost narrowly fringed with whitish at the ends; upper tail-coverts like the back; centre tail-feathers ashy grey, blackish towards the ends, the remainder black tipped with an ashy-grey spot, increasing in extent towards the outermost, which is also pale ashy along the outer web; crown of head like the back; a line across the base of the forehead, lores, feathers round the eye, and fore part of cheeks black; sides of face, ear-coverts, cheeks, and throat blackish, with an ashy shade, shading off paler on the lower throat and fore neck; remainder of under-surface of body deep pearly grey, a little lighter than the back; thighs dark slaty grey; under tail-coverts white, grey near the vent, the rest of the coverts marked with ashy grey; under wing-coverts grey, or grey varied with white bars; axillaries grey; quills below dusky, ashy white along the inner edge. Total length 11 inches, culmen 1.05, wing 6.45, tail 4.4, tarsus 0.95.

PERICROCOTUS IGNEUS, Blyth; Sharpe, Cat. B. iv. p. 78; Hume, Str. F. 1879, p. 57.

"No. 53. ♂. Irides brown. Not common. Only one specimen of this Minivet was obtained."

CRYPTOLOPHA TRIVIRGATA (Strickl.); Sharpe, Cat. B. iv. p. 396; Salvad. t. c. p. 204.

"No. 44. ♀. Irides dark brown."

Compared with specimens from West Java and Sumatra.

RHIPIDURA ALBICOLLIS (V.); Sharpe, Cat. B. iv. p. 317.

"No. 31. ♀. Irides brown. These Fantails are restless and active in their habits, flitting about with their tails spread out and hardly ever for a moment still. This species and the one found in the low country (*R. javanica*) are said to be mad by the Malays, from the absurd and restless way in which they are always hopping and turning about. The present species I always found in small flocks, and almost invariably with Quaker Thrushes (*Alcippe*), Racket-tailed Drongos, *Rhinocichla mitrata*, and other birds. It frequents dense jungle and has a sweet clear little song."

The only difference between the specimen sent and others from

various parts of India seems to be that the white tips to the tail-feathers are rather larger and not ashy white, but pure white. Tenasserim specimens, however, seem to be intermediate.

NILTAVA GRANDIS, Hodgs.; Sharpe, P. Z. S. 1886, p. 351.

"No. 38. ♂. Irides brown. Only one specimen seen in this stage of plumage."

The specimen is a young bird in spotted dress.

MUSCICAPULA MACULATA (Tick.); Sharpe, Cat. B. iv. p. 207; Salvad. *t. c.* p. 203 (1884).

"No. 36. ♂. Irides brown. Quite common about 3500 feet."

COPSYCHUS MUSICUS (Raffl.); Sharpe, Cat. B. vii. p. 63; Hume, Str. F. 1879, p. 64; Kelham, *t. c.* p. 515; Salvad. *t. c.* p. 236.

"No. 52. Only found on clearings of the hills." [Not sent.]

MYIOPHONEUS, sp. inc.

"No. 54. ♂ ♀. It is found in the rocky ravines and river-beds of the hills from 1000 feet or so to nearly 4000 feet, but is a rare and shy bird." [Not sent.]

Mr. Wray supposes this bird to be *M. temmincki*, and says that it agrees with Jerdon's description of that species. I think it will probably be *M. eugenii*.

IOLÉ TICKELLI (Blyth); Sharpe, Cat. B. vi. p. 60.

Hypsipetes tickelli, Hume & Davison, Str. F. vi. p. 296.

"No. 39. ♂ ♀. Irides red-brown. Has an erectile crest. It is common above 3500 feet, either solitary or in pairs. It hawks for insects, and also eats vegetable matter."

There is a slight difference between the birds of Perak and typical *I. tickelli* from Tenasserim. The Perak birds are rather darker, more ashy below, and decidedly more dingy olive on the flanks. These dull colours may, however, be due in great part to worn nesting-plumage, of which Mr. Wray's specimens bear evidence.

TROCHALOPTERUM PENINSULÆ, sp. n. (Plate XXXVII.)

"No. 25. ♂ ♀. Irides brown. Usually seen in the undergrowth, but sometimes on the higher trees. One pair that I shot on a fair-sized tree had been feeding on some large green seeds. There were also partly digested remains of insects in both of their stomachs. This bird has a pretty clear song, and roosts low down in the undergrowth."

This species finds its nearest ally in *T. melanostigma* of Tenasserim, resembling that species in the black wing-spot formed by the primary-coverts, but it differs in many important points, which may be summarized as follows:—

1. A darker chestnut crown.
2. The back chestnut-brown instead of ashy.
3. Ear-coverts dingy rufous-brown, not ashy.
4. Breast chestnut-brown instead of ashy.

The following is a description of the sexes of *T. peninsulæ*:—

Adult male. General colour above reddish brown, a trifle more olivaceous towards the lower back and rump; scapulars like the back; lesser and median coverts like the back, the latter slightly washed with rufous, greater coverts maroon-red; bastard-wing black, externally golden or maroon, the outer feather olive, greenish externally; primary-coverts black, forming a large patch; quills blackish, externally olive-yellow with a golden lustre, rather brighter on the primaries; inner secondaries inclining to ashy grey towards the ends, which are edged with black; upper tail-coverts like the back; tail-feathers dusky, externally golden olive; crown of head deep chestnut as far as the occiput; nape and hind neck like the back, the former slightly tinged with rufous; lores and feathers over the eye black; sides of hinder crown dark ashy, forming a patch converging on the nape; sides of face, ear-coverts, and cheeks dark rufous-brown, blackish below the eye and on the chin; throat and fore neck deep chestnut, becoming paler and more rufous-brown on the breast and abdomen; the sides of body and flanks somewhat duller brown; thighs and under tail-coverts dull rufous-brown; under wing-coverts and axillaries like the sides of the breast; quills below blackish, ashy along the inner edge. Total length 10 inches, culmen 0.95, wing 4.1, tail 4.5, tarsus 1.5.

Adult female. Similar to the male. Total length 10 inches, culmen 0.95, wing 3.8, tail 4.3, tarsus 1.4.

POMATORHINUS WRAYI, sp. n.

"No. 24. ♂ ♀. Irides brown. This bird has a loud, clear, and rather pleasing song. It frequents the undergrowth and often the ground, going about in pairs. Stomach contained insects."

This species represents *P. tickelli* in the Perak Mountains, but it is everywhere much darker in plumage, the head being dusky brown, inclining to dark ashy. The tail is black instead of rufous-brown.

The following is a description of the typical pair of birds:—

Adult female. General colour above reddish brown, with indistinct dusky cross-bars under certain lights; lower back and rump slightly more olivaceous; upper tail-coverts again reddish brown; lesser and median coverts reddish brown like the back; greater coverts, bastard-wing, primary-coverts, and quills blackish brown, externally reddish brown, inclining to chestnut on the quills; tail-feathers blackish, washed externally with reddish brown, especially towards the base of the feathers, which are indistinctly barred with dusky under certain lights; crown of head more dusky brown than the back, and only slightly washed with rufous; lores ashy whitish; behind the eye a bare spot; no distinct eyebrow, but a streak above the ear-coverts, formed by the white longitudinal centres of the feathers, larger and more distinct down the sides of the neck; ear-coverts pale brown, followed by a reddish band down the sides of the neck; cheeks, throat, breast, and centre of abdomen white; sides of neck dusky brown, with some longitudinal white stripes intermingled;

fore neck and breast with dusky margins to some of the feathers; sides of breast and of abdomen ashy grey, mottled with lanceolate streaks of white, narrower on the latter; sides of body and flanks uniform reddish brown; thighs and under tail-coverts also reddish brown; under wing-coverts and axillaries dark ashy; quills below dusky blackish, more ashy along the inner edge. Total length 10 inches, culmen 1·7, wing 4·1, tail 3·95, tarsus 1·55.

Adult male. Similar to the female, but not so strongly streaked with white down the sides of the neck. Total length 10 inches, culmen 1·65, wing 4·0, tarsus 1·6.

I have described the female, as the male is moulting and has not got its perfect tail.

CORYTHOCICHLA LEUCOSTICTA, sp. n.

"No. 37. ♂ ♀. Irides crimson. Frequents the undergrowth usually in pairs, and has an unusually loud song for such a small bird."

Compared with *C. striata* the present species is more ashy both above and below, and is easily distinguished by the white dots on the coverts and quills, these being fulvous in *C. striata*. The throat is distinctly mottled with blackish (not ashy) centres to the feathers.

Adult male. General colour above ashy brown, with a slight ruddy tinge; all the feathers edged with black, producing a mottled appearance; rump not so distinctly mottled; wing-coverts like the back, and edged with black in the same manner, each having a tiny white spot at the tip; bastard-wing, primary-coverts, and quills blackish, externally olive-brown, a little more ruddy on the latter; all the quills with a tiny white spot at the end, larger on the inner secondaries; tail-feathers dark brown, externally reddish brown; head like the back, and mottled with black edgings in the same manner; lores and a distinct broad eyebrow ashy grey; sides of face dull ashy, shaded with brown on the ear-coverts, and having a faint moustache of whitish near the gape; cheeks uniform ashy grey; throat white, mottled with dark ashy-grey centres to the feathers; remainder of under surface of body dull ashy brown, with dusky centres; the sides of the body browner, becoming more rufous on the flanks and under tail-coverts; axillaries and under wing-coverts olive-brown. Total length 5·4 inches, culmen 0·7, wing 2·5, tail 1·8, tarsus 0·95.

Adult female. Similar to the male, but rather paler in colour. Total length 5·2 inches, culmen 0·7, wing 2·55, tail 1·75, tarsus 0·9.

SIVA SORDIDA, Hume; Sharpe, Cat. B. vii. p. 641.

"No. 33. Irides white. This Hill-Tit is not often seen, so far as my experience goes. During bad stormy weather it seems to disappear altogether, probably taking refuge in the sheltered valleys."

A young bird, belonging to *S. sordida* or a closely allied species, and certainly quite distinct from *S. cyanoptera*. It has rather a long tail, and is yellower underneath than the type of *S. sordida*, and a comparison of fully adult birds is desirable.

ALCIPPE PERACENSIS, sp. n.

"No. 32. ♂. Irides brown. This bird is common on the higher parts of the hills. It has a loud and musical song."

By the absence of the white eyelids this new species ought to be allied to *Alcippe phaeocephala* and *A. cinerea*; but it has a very distinct black band running down the sides of the neck, thus showing its affinity to *A. nipalensis*. It is, in fact, closely allied to the latter species, but may be distinguished by the want of the white ring of feathers round the eye.

Adult. General colour above warm brown from the lower mantle downwards; the upper tail-coverts like the back; wing-coverts like the back; bastard-wing, primary-coverts, and quills dusky brown, externally like the back; the primaries edged with fulvous brown; tail-feathers brown, externally like the back; crown of head, occiput, nape, hind neck, and upper mantle dark slaty grey, with a black streak extending from above the eye to the upper back; lores ashy white; feathers round eye, ear-coverts, and sides of neck ashy grey, lighter on the cheeks, which incline to ashy white like the throat; fore neck, breast, and abdomen creamy white; the sides of body and flanks light brown, darkening on the latter; thighs and under tail-coverts light brown; under wing-coverts and axillaries whity brown; quills below dusky, ashy whitish along the inner edge. Total length 5·4 inches, culmen 0·5, wing 2·5, tail 2·5, tarsus 0·75.

MINLA SOROR, sp. n. (Plate XXXVIII. fig. 1.)

"No. 42. ♂. Irides dark brown."

Closely allied to *M. castaneiceps*, from which it differs in its much larger size, darker olive-brown coloration, and deep chestnut, not orange, edging to the quills.

Adult. General colour above olive-brown, more distinctly olive on the lower back and rump; the mantle with narrow pale shaft-streaks, not very distinct; lesser and median coverts like the back; external greater coverts black, the inner ones olive-brown; bastard-wing and primary-coverts black; quills dusky blackish, externally olive-brown; the primaries edged with chestnut towards the base; the outer primaries margined with white; upper tail-coverts like the back; tail-feathers ashy brown, externally olive-brown; crown of head and nape bright chestnut, the feathers mesially streaked with rufous shaft-lines, white towards the forehead; lores and feathers round and below the eye sulphur-yellow; ear-coverts with a black streak along the upper part, surmounted by a streak of sulphur-yellow; remainder of ear-coverts yellow streaked with black, and with a black stripe below, separating them from the cheeks, which, with the throat and under surface of body, are pale yellowish buff; the feathers of the cheeks and throat slightly mottled with brown tips; sides of body and flanks olive-brown; thighs olive-brown; under tail-coverts yellowish white, with dusky centres; under wing-coverts and axillaries pale yellow; quills below dusky, ashy yellowish

along the inner edge. Total length 4·7 inches, culmen 0·55, wing 2·6, tail 2·0, tarsus 0·85.

STACHYRIS NIGRICEPS, Hodgs.; Sharpe, Cat. B. vii. p. 532 (1883).

"No. 56. ♂. Irides brown."

Apparently identical with Himalayan specimens.

CYANODERMA CHRYSÆA (Hodgs.); Sharpe, Notes Leyden Mus. vi. p. 176 (1884).

Stachyridopsis chrysæa (Hodgs.); Sharpe, Cat. B. vii. p. 601.

"No. 35. Irides brown. Male and female similar."

The specimen sent seems to me to be inseparable from *S. chrysæa*. It is a trifle less distinctly streaked on the head, showing an approach to *S. assimilis*; but it has the brilliant throat of *S. chrysæa*.

PHYLLERGATES CUCULLATUS (Temm.); Sharpe, Cat. B. vii. p. 229 (1883).

"No. 50. ♂. Irides light brown. Only seen in dense jungle."

Identical with Javan specimens.

SUTORIA MACULICOLLIS (Moore); Sharpe, Cat. B. vii. p. 218 (1883).

"No. 51. ♀. Irides light brown. Shot in a clearing at 3300 feet."

PTERUTHIUS ÆRALATUS, Tickell; Hume and Davison, Str. F. vi. p. 368 (1878).

"No. 34. ♂. Irides brown. This bird is fairly common on the higher parts of the hills."

Slightly smaller than the typical *P. æralatus* (wing 3·1), but not specifically separable. *P. cameranoi*, of Salvadori (*t. c.* p. 232), is undoubtedly the same.

ÆTHOPYGA WRAYI, sp. n. (Plate XXXVIII. fig. 2.)

"No. 41. ♂. Irides dark brown. This Honey-sucker is very plentiful in the jungle, on the tops of the hills, and in the clearings. I have not observed it lower than 3000 feet. There is another species of Honey-sucker, but I was not able to get a specimen of it."

This species is the Malayan representative of *Æthopyga sanguinipectus*, from which it may be distinguished by its black, non-metallic throat and fore neck.

Adult male. General colour above dark crimson on the mantle and back; scapulars black; on the rump a patch of sulphur-yellow; bastard-wing, primary-coverts, and quills blackish, a little browner on the edge of the latter; upper tail-coverts metallic violet-blue; tail-feathers black, the long centre ones externally metallic violet-blue; crown of head metallic violet-blue, with a purple reflexion; lores, sides of face, and ear-coverts black; cheeks metallic blue, forming a moustachial streak; throat, fore neck, and chest velvety

black, the sides of the latter dark crimson enclosed by black; breast, abdomen, sides of body, and flanks pale olive-greenish, yellower on the centre of the breast, which is also streaked with black, and just below the velvety black of the upper breast are some tiny longitudinal streaks of scarlet; on the sides of the body and flanks a tuft of pale yellow; thighs and under tail-coverts like the breast; under wing-coverts and axillaries yellow, with white bases; quills below dusky blackish, white along the inner edge. Total length 5 inches, culmen 0·7, wing 2·0, tail 1·6, middle feathers 2·6, tarsus 0·5.

ARACHNOTHERA MAGNA, Hodgs.; Shelley, Monogr. Nect. pl. 112. fig. 1.

"No. 26. Irides brown. Feet and legs bright orange; bill black. Female much larger than the male. A very active bird, with a loud harsh note."

ARACHNOTHERA LONGIROSTRIS (Lath.); Shelley, *t. c.* pl. 114; Hume, Str. F. 1879, p. 55; Kelham, *t. c.* p. 501; Salvad. *t. c.* p. 214.

"No. 25. Irides brown. I only saw these Spider-hunters once, when a large party of them were fluttering on the tops of some small trees, making a continual chirping."

DICÆUM IGNIPECTUS (Hodgs.); Sharpe, Cat. B. x. p. 41.

"No. 49. ♂. Irides brown."

A specimen in bad condition, but apparently identical with others from the Himalayas.

DENDROPHILA AZUREA (Less.); Salvad. *t. c.* p. 211.

"No. 55. ♀. Irides white; skin round eyes white; legs and bill blue-grey. Sexes alike. This pretty little Nuthatch frequents the densest parts of the jungle, usually in the ravines, and seems to prefer the trunks of the largest trees to hunt for insects &c. Is seen singly or in small parties of three or four."

Count Salvadori finds fault with Gray's figure of this species, and says that the feet in the dried skins from Sumatra were greenish, not yellow; but it is probable that they became yellow in time, and certainly our Java skins have yellow legs; but a Timor specimen has them dark, like the Perak bird. Both the last-named specimens are duller blue on the back than the Java specimens.

ZOSTEROPS AURIVENTER, Hume; Sharpe, Cat. B. ix. p. 163.

"No. 43. ♀. Irides yellow-brown."

MOTACILLA MELANOPE, Pall.; Sharpe, Cat. B. x. p. 497 (1885).

Calobates melanope, Hume, Str. F. 1879, pp. 65, 161; Salvad. *t. c.* p. 236.

"No. 40. ♂. Irides dark brown. Males and females alike."

HIRUNDO GUTTURALIS (Scop.); Sharpe, Cat. B. x. p. 134 (1885); Hume, Str. F. 1879, p. 47; Kelham, *t. c.* p. 372.

"No. 62. ♂. Irides dark brown. Very plentiful on the summits of the hills."

Apparently an adult male before the winter moult.

NYCTIORNIS AMICTUS (Temm.); Dresser, Monogr. Merop. pl. i.

"No. 29. ♀. This bird is partial to the lower trees and bushes in the forest, and extends from the plains up to the very top of the hills. The nest is made in a hole excavated in a bank of earth, in the same way as with the *Merops*.

"It makes a sort of laughing noise, something like 'Kār-kā-kā-kā-kā-kā-kār.' It was some time before I was able to identify this bird as the caller, until I shot one in the act. The amount of red on the head and throat varies very much; and in one the plumage was wholly green, excepting the tail, which was the same as in the normally coloured bird."

HIEROCOCCYX FUGAX, Horsf.; Hume, Str. F. 1879, p. 53; Kelham, *t. c.* p. 391; Salvad. *t. c.* p. 185.

"No. 61. ♀. Irides brownish yellow. This was the only member of the family Cuculidæ that I met with."

CYANOPS RAMSAYI.

Megalæma ramsayi, Wald.; Hume and Davison, Str. F. vi. p. 152.

"No. 20. ♂ ♀. Irides brown. This Barbet is common above 3500 feet."

This is a Tenasserim species, not previously known to occur to the south of that province.

MEGALÆMA OOTI.

Cyanops ooti, Salvad. *t. c.* p. 180.

"No. 21. ♀. Irides red-brown. I did not meet with this species higher than 3500 feet nor lower than 3000 feet. It is plentiful, but, from its frequenting the tops of tall trees, is difficult to shoot. Both of these Barbets are very noisy birds."

PSILOPOGON PYROLOPHUS, S. Müll.; Sharpe, P. Z. S. 1886, p. 352; Salvad. *t. c.* p. 178.

"No. 14. I observed one male of this species with the under tail-coverts scarlet; and another with them green, with the extreme tips of the feathers tinged with scarlet. It is a very silent bird, and only occasionally utters a harsh note, something like that of a Woodpecker."

CHRY SOPHLE GMA MALACCENSE (Lath.); Hargitt, Ibis, 1886, p. 276.

Callolophus malaccensis, Hume, Str. F. 1879, p. 52; Salvad. *t. c.* p. 182.

"No. 23. ♀. Irides brown. A low-country form. The specimen sent was shot at nearly 4000 feet."

GECINUS CHLOROLOPHUS.

"No. 22. ♂. Irides crimson. The only Woodpecker seen in the higher parts of the hills."

LEPOCESTES PORPHYROMELAS.

Blythipicus porphyromelas, Hume, Str. F. 1879, p. 52.

"No. 58. ♂. Irides brown."

Miglyptes grammithorax, Malh.; Hargitt, Ibis, 1884, p. 191.

Meiglyptes tristis, Hume, Str. F. 1879, p. 52; Kelham, *t. c.* p. 388; Salvad. *t. c.* p. 184.

"No. 63. ♂. Irides brown."

Vivia innominata (Burt.); Salvad. *t. c.* p. 184.

"No. 48. ♀. Irides brown. This pretty little Piculet seems to be rare, as I only met with it once. I saw a small bird on the almost vertical branch of a shrub, pecking at it in the same way as a Woodpecker, and took it to be a Nuthatch until I shot it."

I showed Mr. Wray's specimen to my friend Mr. Hargitt, who pronounced it identical with Himalayan examples. By the discovery of the species in the Larut mountains its range to the southward is much extended, though it occurred to Dr. Beccari in Sumatra.

Carpophaga badia (Raffl.); Hume, Str. F. 1879, p. 67.

"No. 45. Irides greyish white; feet and eyes crimson-red. I have also collected this Pigeon on the plains near the mangrove-swamps in May and June, though it is not by any means common, and does not seem to have been noticed by collectors in the Straits. Like *C. insignis* of Hodgson, it appears to descend from the hills to the plains during the months of April, May, and June."

MACROPYGIA, sp.

"No. 60. ♂. Irides pale brown, with an inner ring of white; legs dull lake-red. Only one specimen of this handsome Tree-Dove was procured, so it is probably rare. I shot it at upwards of 4000 feet.

"Some three years ago I shot a small reddish-brown Dove, about 9 or 10 inches in length, near the top of the Larut hills, but unfortunately the skin was not preserved. I also found a nest belonging to the same species, which was built of twigs and contained white eggs. It was on the top of a small palm tree, about 5 feet from the ground. These two species and *Carpophaga badia* are the only representatives of the Columbæ which I have seen in the upper parts of the mountains."

So far as I can see, this Dove is *M. tusalia* of Hodgson; but I must confess that the variations of plumage in this genus require more time to work out than I have at present at my disposal.